

Applicant traverses the objections to the specification. In particular, the Examiner's suggested corrections have been adopted and the informalities objected-to by the Examiner have been corrected by the present amendment. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the objections to the specification.

Applicant traverses the rejections of claims 1, 3-5, 7-11 and 13 under 35 U.S.C. §102(e) and of claims 2, 6, 12 and 14 under 35 U.S.C. § 103(a) over MATSUMOTO.

Initially, Applicant would like to explain the present invention as recited in the claims of the instant application. In particular, according to the invention recited in claim 1, a multimedia copy control system includes "an encryption decoder... to judge whether the reproduction output data is encrypted data". Additionally, "when said first copy control detector detects the first copy control information, the reproduction of the digital audio data is controlled based on the first copy control information, and when said first copy control detector detects no first copy control information, the reproduction of the digital audio data is controlled based on the second copy control information". Applicant submits that each of claims 5, 7, 11 and 13 recite features similar to the above-noted features recited in claim 1, and which are not disclosed or suggested in the applied reference.

In other words, the reproduction output data may include a first copy control information (digital CCI) and/or a second copy control information (watermark CCI). The judgement whether reproduction output data is encrypted is used because, for example, a

digital CCI is not very reliable if not encrypted. Accordingly, if the reproduction output data is not encrypted, the multimedia copy control system can use the second copy control information (watermark CCI) to control the reproduction of the digital audio data, even if a digital CCI is present. Additionally, even when the digital audio data is encrypted, when no first copy control information (digital CCI) is present, the multimedia copy control system can use the second copy control information (watermark CCI) to control the reproduction of the digital audio data. The above-noted features of the present invention are disclosed at, for example, Figure 12, steps S1-S4 and S9--S12. } Spec

In summary, as noted above, when the first copy control information (digital CCI) is either unreliable (unencrypted) or not present, the second copy control information (watermark) is used to control the reproduction of the digital audio data.

Additionally, Applicant notes that the first copy control information (digital CCI) would not be included in analog audio data. In particular, since analog audio data is continuous real data, that is not provided with a region corresponding to a vertical blanking period such as is provided for video data, digital CCI would not be included in analog audio data.

In contrast to the recited invention, MATSUMOTO discloses that the digital CCI and the watermark are included in the contents data and used to control reproduction. In particular, a premise of MATSUMOTO is that video data is treated and the digital CCI and

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the watermark are included in the contents data. Additionally, a premise of MATSUMOTO is that the digital CCI is included in the vertical blanking period of the video data. Accordingly, MATSUMOTO does not disclose or suggest the invention recited in, for example, claim 1.

Furthermore, examination of the entries of the Table at column 11 of MATSUMOTO reveals that MATSUMOTO does not consider a case where the digital CCI is not present (i.e., not detected). Additionally, the determination of the legality or illegality of a copying operation is dependent on both the watermark and the two-bit CCI information. For example, MATSUMOTO discloses at, for example, column 15, lines 56-67, that the copy control depends on both copy control values. In other words, MATSUMOTO requires the digital CCI. In particular, examination of the Table at column 11 reveals that there is no single CCI information that consistently results in the same determination of legality or illegality regardless of the watermark. Accordingly, the digital CCI information in MATSUMOTO is required, in contrast to the present invention which addresses a situation when the digital CCI information is not present.

MATSUMOTO does not apply to analog audio data because the analog audio data does not include a portion corresponding to a vertical blanking period of a video content data. Therefore, MATSUMOTO does not address the case where a digital CCI cannot be provided with analog audio data. Additionally, even if it were possible for MATSUMOTO to not

consider the digital CCI, there is no consistent result, in, for example, the Table at column 11 of MATSUMOTO, that is dependent on only one of the digital CCI or the watermark.

Accordingly, Applicant respectfully submits that MATSUMOTO does not disclose or suggest "an encryption decoder configured to... judge whether the reproduction output data is encrypted data", as is recited in claim 1. Additionally, Applicant respectfully submits that MATSUMOTO does not disclose or suggest "when said first copy control detector detects no first copy control information, the reproduction of the digital audio data is controlled based on the second copy control information", as is recited in claim 1.

Additionally, the digital copy control in MATSUMOTO is conducted using copy control information on the premise that a plurality of apparatuses connected to each other through a bus are mutually authenticated in a system. In other words, the authentication of the apparatuses to each other is a premise of conducting a copy control operation. The system of MATSUMOTO is effective when judging new equipment which is newly incorporated in the system.

In contrast, the mutual authentication of the apparatuses is not necessary for copy control according to the invention recited in the claims of the present application. Rather, according to the invention recited in the claims of the present application, the reproduction control is performed according to the copy control information in the disk reproduction apparatus side. Therefore, even when the reproduction apparatus is analog-connected to a

conventional legacy recording apparatus, reproduction control of the disk contents can be performed. In other words, even where the reproduction apparatus is not authenticated to the recording apparatus, reproduction control of the disk contents can be performed, based upon the disk contents.

In the case of an analog copy control, a digital CCI is not provided with an analog input stream because the analog audio data is continuous. Accordingly, when an analog input stream is converted to a digital signal, a copy control is not provided when no watermark decoder is provided. However, according to the present invention, when no digital CCI is provided, a watermark is still detected and reproduction is controlled based on the watermark. Accordingly, the system disclosed in MATSUMOTO would be defeated because the digital CCI is required in each case. Additionally, MATSUMOTO does not work when an analog audio signal is input because a digital CCI is not provided in an analog input signal. In contrast, the present invention controls reproduction of audio signals, regardless of whether the input stream is analog or digital, and regardless of whether the digital CCI is present or not.

Accordingly, the present invention uses the digital CCI when the digital CCI is encrypted because the encrypted digital CCI has a high resistance to tampering. However, when the data is not encrypted, or when the digital CCI is not present, the watermark is used to control reproduction. In contrast, MATSUMOTO controls copying depending on both the

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digital CCI and the watermark. Accordingly, since an unencrypted CCI can be easily tampered, data in MATSUMOTO is susceptible to unauthorized reproduction, which is not the case in using the invention recited in the claims of the instant application.

Additionally, as has been shown, the copy reproduction control of an analog audio input signal cannot be executed by combination of watermark and CCI signals, as would be required in MATSUMOTO. In particular, a digital CCI signal cannot be inserted outside a scan region in an analog audio input signal. Additionally, since a digital CCI signal is not present in digital audio signal converted from an analog audio input signal, the copy reproduction control of an analog audio signal cannot be executed by combination of watermark and CCI signals, as is required in MATSUMOTO.

Applicant further submits that, while the above-noted remarks have been directed to the features explicitly recited in claim 1, claims 5, 7, 11, and 13 recite features generally similar to the above-noted features of claim 1. Accordingly, Applicant respectfully submits that each of claims 1, 5, 7, 11, and 13 is allowable, at least for the reasons set forth above. Additionally, Applicant respectfully submits that each of claims 2-4, 6, 8-10 and 12 are allowable, at least for depending, directly or indirectly from an allowable independent claim, as well as for additional reasons related to their own recitations.

Accordingly, for all of the reasons noted above, Applicant respectfully requests reconsideration and withdrawal of the outstanding objections to the specification, as well as

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the rejection of claims 1, 3-5, 7-11 and 13 under 35 U.S.C. §102(e) and claims 2, 6, 12 and 14 under 35 U.S.C. §103(a) over MATSUMOTO. Accordingly, Applicant respectfully requests reconsideration and withdrawal of each of the outstanding rejections, as well as an indication of the allowability of each of the claims pending, in due course.

SUMMARY AND CONCLUSION

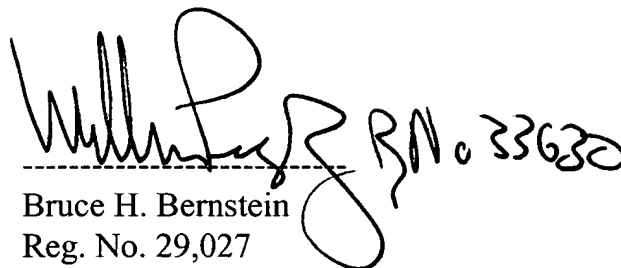
Applicant has made a sincere effort to place the present application in condition for allowance and believes that he has now done so. Upon entry of the present amendment, claims 1, 4-5, 7, 10-11 and 13 will have been amended. Applicant has discussed the features recited in Applicant's claims and has shown how these features are not taught, disclosed nor rendered obvious by the references applied by the Examiner.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

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Should there be any questions, the Examiner is invited to contact the undersigned at the below-listed number.

Respectfully submitted,
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April 30, 2003
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**MARKED-UP COPY OF SPECIFICATION**

Please amend the paragraph from page 2, line 19 to page 3, line 7, as follows:

Fig. 14 shows an outline of a reproducing/recording system in a conventional system of DVD. An authorized optical disc player 209 comprises: an encryption decoder 203 for decoding an encryption from a system [steam] stream; a reproduction controller 204 for servo-controlling an optical pickup and a working mechanism relating to reproduction of an optical disc; an AV decoder 206 for converting a system stream to a digital audio or digital video signal; an analogue output circuit 207 for converting the digital audio or the digital video signal into an analogue signal to output the analogue signal; and a digital output circuit 208 for converting the digital audio or digital video signal into a signal of a definite output format (for example, IEC60958, IEEE1394 and the like) to output the digital signal.

Please amend the paragraph from page 6, line 18 to page 7, line 13, as follows:

When the digital signal outputted in the definite digital format is inputted into an unauthorized optical disc recorder 278 from the authorized optical disc player 269, the inputted digital signal is converted into a digital audio or digital video signal by a digital input circuit 271. The converted digital audio or digital video signal is then converted into a system stream by means of an AV encoder 273. For the system stream, a tampered copy control management data (CCI) detector/rewriter 274 detects the digital CCI (293) having

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"C4C3=10" that permits one generation copy. The tampered copy control management data detector/rewriter 274 tampers the digital CCI data to set for copy free "C4C3=00" though it should rewrite the C3 parameter of the digital CCI from 0 to 1 to make it into "C4C3=11" so as to prohibit copy of second and subsequent generations. Then, an encryption generator 276 adds an encryption to the system stream, and a recording operation is performed under a control of a recording controller [231] 272, whereby a one generation copy disc 261 of copy free having no limitation for copy is created. Copy controlling management information of this case is shown by a block 294.

MARKED-UP COPY OF CLAIMS

1. (Amended) A multimedia copy control system for controlling a copy of a digital data recording medium in which digital [contents] audio data is stored and from which the digital [contents] audio data is reproduced and recorded to another recording medium for copying, wherein the digital [contents] audio data stored in the digital data recording medium includes a first copy control information of a digital format and a second copy control information of an analog embedded format, said system comprising:

an encryption decoder [adapted] configured to decrypt reproduction output data from the digital data recording medium to judge whether the reproduction output data is encrypted data;

a first copy control detector [adapted] configured to detect the first copy control information from the decrypted reproduction data;

a contents data decoder [adapted] configured to extract the digital [contents] audio data from the decrypted reproduction data; and

a second copy control detector [adapted] configured to detect the second copy control information from the extracted digital [contents] audio data,

wherein encryption of the reproduction output data from the recording medium is decrypted and judged for each digital contents unit under reproduction, and [in the case where] when said first copy control detector detects the first copy control information, the

reproduction of the digital [contents] audio data is controlled based on the first copy control information, and [in the case where] when said first copy control detector detects no first copy control information, the reproduction of the digital [contents] audio data is controlled based on the second copy control information.

4. (Amended) The multimedia copy control system as claimed in claim 1 further comprising:

an analog output [control portion adapted] controller configured to generate analog [contents] data from the extracted digital [contents] audio data;

a digital output [control portion adapted] controller configured to convert the extracted digital [contents] audio data to a specified output format data to be generated therefrom;

wherein the digital [contents] audio data outputted via said digital output [control portion] controller includes both the first and second copy [control] information, and the analog contents data outputted via said analog output [control portion] controller includes only the second copy control information.

5. (Amended) A multimedia copy control method for controlling a copy of a digital data recording medium in which digital [contents] audio data is stored and from which the digital [contents] audio data is reproduced and recorded to another recording medium for copying, wherein the digital [contents] audio data stored in the digital data recording medium includes a first copy control information of a digital format and a second copy control

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information of an analog embedded format, said method comprising:

decrypted reproduction output data from the digital data recording medium to judge whether the reproduction output data is encrypted data;

detecting the first copy control information from the decrypted reproduction data;

extracting the digital [contents] audio data from the decrypted reproduction data; and

detecting the second copy control information from the extracted digital [contents] audio data,

wherein encryption of the reproduction output data from the recording medium is decrypted and judged for each digital contents unit under reproduction, and [in the case of detecting] when the first copy control information is detected, the reproduction of the digital [contents] audio data is controlled based on the first copy control information, and [in the case of detecting nor] when the first copy control information is not detected, the reproduction of the digital [contents] audio data is controlled based on the second copy control information.

7. (Amended) An optical disk reproduction device for reproducing an optical disk in which digital [contents] audio data is stored and from which the digital [contents] audio data is reproduced for copying, wherein the digital [contents] audio data stored in the optical disk includes a first copy control information of a digital format and a second copy control information of an analog embedded format, said reproduction device comprising:

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a stream data [extracting unit adapted] extractor configured to extract stream data from the reproduction output data of the optical disk;

an encryption decoder [adapted] configured to decrypt the extracted reproduction stream data to judge whether the reproduction stream data is encrypted data;

a first copy control detector [adapted] configured to detect the first copy control information from the decrypted reproduction stream data;

a contents decoder [adapted] configured to extract and decode the digital [contents] audio data from the decrypted reproduction stream data;

a second copy control detector [adapted] configured to detect the second copy control information from the extracted digital [contents] audio data;

an analog output controller [adapted] configured to output analog contents data from the extracted digital [contents] audio data;

a digital output controller [adapted] configured to convert the extracted digital [contents] audio data to a specified output format data to be generated therefrom; and

a system controller [which receives] configured to receive the first and second copy control information and controls said analog output controller and said digital output controller,

wherein encryption of the reproduction output data from the optical disk is decrypted and judged for each digital contents unit under reproduction, and [in the case where] when

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said first copy control detector detects the first copy control information, the reproduction of the digital [contents] audio data is controlled based on the first copy control information, and [in the case where] when said first copy control detector detects no first copy control information, the reproduction of the digital [contents] audio data is controlled based on the second copy control information.

10. (Amended) The optical disk reproduction device as claimed in claim 7, wherein the digital [contents] audio data outputted via said digital output [control portion] controller includes both the first and second copy control information, and the analog contents data outputted via said analog output [control portion] controller includes only the second copy control information.

11. (Amended) A digital data reproducing and recording system [which is a connection] comprising a connected combination of a recording medium reproduction device for reproducing digital data of a recording medium and a recording medium recording device for recording the reproduced digital data to another recording medium, adapted to control a multimedia copy of the recording medium,

wherein the digital [contents] audio data stored in the recording medium includes a first copy control information of a digital format and a second copy control information of an analog embedded format,

said reproduction device comprising:

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an encryption decoder [adapted] configured to decrypt reproduction stream data output from the recording medium to judge whether the reproduction stream data is encrypted data;

a first copy control detector [adapted] configured to detect the first copy control information from the decrypted reproduction stream data;

a contents decoder [adapted] configured to extract the digital [contents] audio data from the decrypted reproduction stream data;

a second copy control detector [adapted] configured to detect the second copy control information from the extracted digital [contents] audio data;

an analog output [control portion] controller configured to generate analog contents data from the extracted digital [contents] audio data; and

a digital output [control portion] controller configured to convert the extracted digital [contents] audio data to a specified output format data to be generated therefrom,

wherein, [in the case where] when said reproduction device and said recording device are digital-connected via said digital output [control portion] controller, the digital [contents] audio data reproduced from said reproduction device includes both the first and second copy control information, and [in the case where] when said reproduction device and said recording device are analog-c connected via said analog output [control portion] controller, the analog contents data reproduced from said reproduction device includes only the second copy control information.

13. (Amended) A digital data recording medium adapted for multimedia copy control, said recording medium comprising:

at least one [contents] data storage region storing digital [contents] audio data which includes first copy control information of a digital format and second copy control information of an analog embedded format,

said at least one data storage region storing said first and second copy control information [being] allocated in [pair] pairs for each digital contents unit,

wherein the digital [contents] audio data stored in the recording medium is adapted to be reproduced from the digital data recording medium so that the reproduced data is decrypted for use in judging whether the reproduction output data is encrypted data,

the decrypted reproduction data being adapted for use in detecting the first copy control information and extracting the digital [contents] audio data therefrom, and

the extracted digital [contents] audio data being adapted for use in detecting the second copy control information.